Eemax

“SERIES SIX”

ELECTRIC INSTANTANEOUS WATER HEATER FOR EMERGENCY SAFETY EQUIPMENT INSTALLATION AND OWNERS MANUAL REQUIRED MAINTENANCE

WARNING

BEFORE ATTEMPTING INSTALLATION OF THIS UNIT OR MAKING ANY ADJUSTMENTS TO THE UNIT ALWAYS BE SURE MAIN CIRCUIT BREAKER IS OFF TO PREVENT DANGER OF SERIOUS ELECTRIC SHOCK.

INSTALLER/ CONSUMER RESPONSIBILITIES

PLEASE TAKE THE TIME TO READ NOT ONLY THIS MANUAL BUT ALSO THE WARRANTY CARD ENCLOSED. WARRANTY OF THIS HEATER WILL DEPEND ON PROPER INSTALLATION, OPERATION, AND REQUIRED MAINTENANCE. THE WARRANTY SHALL BE VOID IF THE DESIGN ORSTRUCTURE OF THE WATER HEATER HAS BEEN ALTERED IN ANY WAY WHATSOEVER. THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGES BECAUSE OF FAILURE TO COMPLY WITH THE INSTALLATION AND OPERATING INSTRUCTIONS OUTLINED ON THE FOLLOWING PAGES.

IF YOU REQUIRE ANY HELP OR HAVE ANY QUESTIONS RELATING TO THE INSTALLATION OR PERFORMANCE OF THIS HEATER, PLEASE CALL OUR TECHNICAL SERVICE DEPARTMENT TOLL-FREE:

1-800-543-6163

HAVE THE INFORMATION LISTED BELOW BEFORE CALLING.

MODEL :	ELEMENT RESISTANCE: OHMS
SERIAL NO :	SWITCH ON FLOW RATE: GPM
INSTALLATION DATE :	OPERATING TEMPERATURE MIN: MAX:

MODEL NUMBERS COVERED

Model Number	Volts (delta) 3 wire	Max . Output @ 480V	Amps Per phase
ED048480T24T	480	48kW	58
ED063480T24T	480	63kW	76

AVAILABLE IN:

EF: Emergency Face (Max temperature – 90 Degrees)

S: Sanitation (Temperature: Ambient – 180 Degrees)

FS: Factory Set (Temperature: Ambient – 180 Degrees)

ACTIVATION FLOW RATES:

T24T: Minimum 1 GPM/Maximum 6 GPM

GENERAL

The Eemax “Series Six” water heater is specifically designed to take in cold or pre-heated water and heat it to temperatures suitable for emergency equipment, With a maximum output temperature of 140°.

To obtain optimum performance and energy savings, the unit should be located as near as possible to the point of use. The unit must only be installed in a vertical position with the inlet and outlet at the bottom. The power is activated by individual electronic flow switches located in each of the twelve heating modules. These will be damaged by excessive heat, **do not** solder any pipes that are in contact with the heater.

Also ensure pipes are clear of installation debris before fitting the heater, otherwise the flow switches could jam in the “on” position. The unit must be connected to its own individual electric circuit protected by a suitably rated three pole breaker. The maximum voltage which can be applied across any heating module is 480 volts.

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause DEATH, SERIOUS BODILY INJURY OR PROPERTY DAMAGE. Refer to this manual for assistance or consult the local electric utility for further information.

The unit is supplied with 1” NPT pipe connections and a Y strainer for the inlet side.

Under no circumstances use a blow torch on pipe which is connected to the heater (serious damage to the electronic flow switch will result). Carefully use Teflon tape, ensuring no debris enter the heater. **Do not use pipe dope.**

WARNING

Failure to ground the system may result in death or serious injury.

MOUNTING THE UNIT

1) The unit should be mounted as close to the point of use as possible.

2) This unit must only be mounted in the vertical position with the water fittings located at the bottom of the unit. Mounting other than in the vertical position WILL cause element burn out.

3) The cold water inlet is on the right hand side and the hot water outlet is on the left hand side. Under NO circumstances can these be reversed.

4) Leave a minimum of 8" above the unit for easy replacement of the elements.

5) The heater should be fixed to the wall using all six mounting holes of the backplate. Unit weight is approximately 45 lbs. Use an appropriate fastener for this weight. For the unit to be mounted against hollow walls, suggest using steel wall anchors, with the correct grip range and #6-32 screw size minimum.

6) The unit should be installed in the plumbing system in such a way that there is no tendency for the unit to be starved of water: for example: by an excessive draw-off of cold water just before the unit. Also do not fit an unrestricted hot water draw-off point below the heater as this will tend to empty the heater by siphoning.

NOTE

ALL MOUNTING AND PLUMBING MUST BE COMPLETE BEFORE YOU PROCEED WITH ELECTRICAL HOOK-UP. TEST THE INSTALLATION FOR LEAKS BEFORE CONNECTING THE ELECTRICAL SUPPLY.

Hazardous Locations - Nonincendive Type Installation

1) The unit is mounted in an approved NEMA4 Enclosure.
2) Non-incendive for Class I, Division 2, Groups A, B, C&D. Temperature class: T5 (212 °F)
3) As to installation, refer to the National Electrical Code and NFPA 70. For locations C1, Div.2 refer to section 501-4 (wiring methods) and 501-10 (utilization equipment) respectively.

Note: If ignition atmosphere is <T5 class, or if other classifications are required, another method of compliance would be "Purged and Pressurized". This is the process of supplying an enclosure with a protective gas at a sufficient flow and positive pressure to reduce the concentration of any flammable gas or vapor initially present to an acceptable level. For further information, see ANSI/NFPA 496-1998, Purged and Pressurized Enclosures for Electrical Equipment.

PLUMBING HOOK-UP

1) The unit is supplied with NPT fittings., USE THESE; DO NOT USE PIPE DOPE AND DO NOT SOLDER PIPE TO THE INLET OR OUTLET.

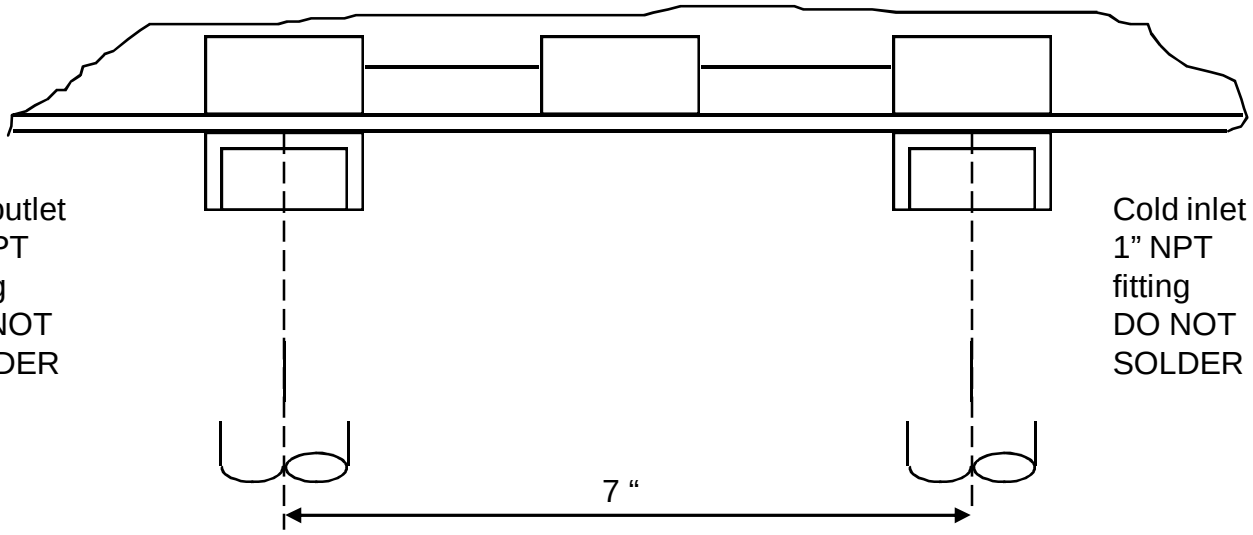
2) Take care to ensure that the pipes are correctly aligned with the inlet and outlet bosses in order to avoid excessive stress on the heater manifold.

   NOTE: When soldering pipe joints remove heater from the wall. Serious damage can occur if any soldering is done while pipes are connected to the heater.

   Run water through the supply pipe to remove all debris from the pipe before connecting the heater. Failure to do so could cause damage to the flow switch.

3) Install isolating valves (full flow ball valve type) on **both** inlet and outlet pipes. This allows unit to be isolated for maintenance purposes. (see Fig. 1)

4) When all plumbing is complete, fully check the system for water leaks at all plumbing connections. If leak is present take corrective action. Fully open both inlet and outlet ball valves. Run all hot water outlets fed by this heater one at a time for a minute or two until the water flow is continuous, free from ”gulping” and from all visible air pockets.



NOTE
ALL MOUNTING AND PLUMBING MUST BE COMPLETE BEFORE YOU PROCEED WITH ELECTRICAL HOOK-UP.

TEST THE INSTALLATION FOR LEAKS BEFORE CONNECTING THE ELECTRICAL SUPPLY.

ELECTRICAL HOOK-UP

WARNING

HAZARD OF ELECTRICAL SHOCK! BEFORE BEGINNING ANY WORK ON THE INSTALLATION, MAKE SURE THE ELECTRICAL SUPPLY TO THE HEATER IS TURNED "OFF". FAILURE TO DO THIS COULD RESULT IN DEATH, SERIOUS BODILY INJURY, OR PROPERTY DAMAGE.

WARNING

WATER HEATERS EQUIPPED FOR ONE VOLTAGE ONLY: CHECK THE RATING PLATE ON THE FRONT OF THE UNIT. DO NOT USE THIS WATER HEATER WITH ANY VOLTAGE OTHER THAN THE ONE SHOWN ON THE MODEL RATING PLATE. FAILURE TO DO SO CAN RESULT IN DEATH, SERIOUS BODILY INJURY, OR PROPERTY DAMAGE. IF YOU HAVE ANY QUESTIONS OR DOUBTS CONSULT YOUR ELECTRIC COMPANY.

This heater must have its own independent circuit using four wires; three live and one ground, of the appropriate rating protected by the correctly rated three pole breaker

RATINGS OF "ED" Series Six Electric Tankless Water Heater
Units are set for a max temperature of 90°F

			Temperature Rise (F°) GPM (gallons per minute)		
Model number prefix	**kW Rating**	**Amps per pahse**	**3 gpm**	**6 gpm**	**8 gpm**
ED039	39	47	89	44	33
ED048	48	58	109	55	41
ED054	54	65	123	61	46
ED063	63	76	143	72	54

THIS UNIT MUST **NOT** BE CONNECTED IN STAR CONFIGURATION

WARNING

FAILURE TO GROUND THE SYSTEM MAY RESULT IN DEATH OR SERIOUS INJURY

IMPORTANT

BEFORE SWITCHING "ON" THE POWER AT THE MAIN CIRCUIT BREAKER PANEL MAKE SURE THAT THE HOT WATER CIRCUIT IS FREE OF AIR POCKETS OR PREMATURE FAILURE OF THE ELEMENT WILL OCCUR. TO DO THIS OPEN ALL HOT WATER OUTLETS ONE AT A TIME FOR A MINUTE OR TWO UNTIL THE WATER FLOW IS CONTINUOUS AND FREE FROM "GULPING" AND FROM VISIBLE AIR POCKETS.

COMMISSIONING YOUR HEATER

IMPORTANT

Before switching “on” the power at the main circuit breaker panel make sure that the hot water circuit is free of air pockets or premature failure of the heating element will occur. To do this open all hot water fixtures one at a time for several minutes until the water flow is continuous and free from “gulping” and from visible air pockets.

1) With inlet and outlet BALL VALVES fully open, turn on a hot water outlet.

2) Run for 3 minute.

3) Switch on electric supply at circuit breaker panel.

4) The power indicator lights should now come on.

   NOTE: At this point water temperature may not be hot.

5) Using the OUTLET BALL VALVE slowly reduce water flow until desired temperature is achieved at hot water outlet.
   NOTE: The water temperature is regulated by the flow through the heater. The lower the flow the higher the temperature and vice versa.

6) If temperature does not achieve desired temperature, please call technical services.

TROUBLESHOOTING

SYMPTOM: NO HEAT INDICATOR LIGHT OFF

1)ELECTRIC SUPPLY IS OFF
Turn on the main circuit breaker.

2)NO OR LOW WATER FLOW
Ensure that the minimum flow rate to switch on your heater is met, for this figure refer to the front cover of this manual.
Also check that the inlet filter screen is clear from any debris.

3)WATER CONNECTIONS ARE REVERSED
Cold water inlet = right side, hot water outlet = left side.

4)ELEMENT BURNED OUT
TURN OFF THE MAIN BREAKER!
Using an ohmmeter test the resistance of the heating element across the two threaded termination rods on top of the element.
See the front cover of this manual for the correct value.
If the resistance is much greater than the correct value, call your supplier for a replacement element.

SYMPTOM: NO HEAT OR LOW TEMPERATURE WITH INDICATOR LIGHT ON

1)WATER FLOW TOO HIGH
Reduce the water flow by using an outlet ball valve. See page 5 for temperature rise at various flow rates.

2)INCORRECT POWER SUPPLY
Make sure that the unit is connected to the voltage supply specified on the rating label on the front cover of the unit and no other.

3)ELEMENT BURNED OUT
TURN OFF THE MAIN BREAKER!
Repeat the steps from paragraph 4 above.

4)THERMOSTAT ADJUSTMENT SCREW NOT TURNED UP
Turn the thermostat adjustment screw clockwise in small increments until the indicator light remains on. Take care not to force the screw past it's stop position.

REQUIRED MAINTENANCE PROCEDURE

To Be Performed by Qualified Personnel

MONTHLY CHECKS

M1) Ensure main circuit breaker is on.

M2) Open outlet valve(s) to run water thru unit. Ensure that the minimum flow rate to switch on your heater is met, for this figure refer to the front cover of this manual.

M3) Check outlet temperature for desired setting.

QUATERLY CHECKS

Q1) Turn off main circuit breaker.

Q2) Remove front cover from heater.

Q3) Inspection of heater bodies and distribution manifold for water leaks.

Q4) Inspection of fuses (50 amp each)

Q5) Inspection of 12 heater elements (see page 10 for element ohms)

Q5) Inspection of coarse inlet filter screen is clear from any debris.

Q6) Turn on main circuit breaker ***(note: unit has live electrical)***

Q7) Carefully perform steps M1 thru M3 with cover removed, observe each module for an indicator light.

Q8) Turn off circuit breaker

Q9) Install front cover, then turn on main circuit breaker.

REPLACEMENT PARTS DIAGRAM

HEATER CORE ASSEMBLY (PLEASE SPECIFY 480 VOLTS ON ANY ORDERS)

FOR ED039	PART# EX3491	35.5 Ohms
FOR ED048	PART# EX2880	28.8 Ohms
FOR ED054	PART# EX2560	25.6 Ohms
FOR ED063	PART# EX2194	21.9 Ohms